

c.) Amendments to the Claims.

Claim 1 (currently amended):

A method for continuous drawing of fibers, comprising the steps of:
 feeding the fiber at an inlet speed to an apparatus for fiber drawing,
 drawing the fiber at a draw speed using the apparatus for fiber drawing,
 conveying the drawn fiber from the fiber drawing apparatus at an outlet
 speed V_{outlet} ,

wherein the fiber drawing apparatus is constructed and arranged to provide a ratio of fiber outlet speed V_{outlet} to ~~the highest value of~~ a fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than 1 to 1, fiber speed $(V_{\text{fiber}})_{\text{max}}$ being the highest value of a linear speed of fiber points along the fiber axis in the process of drawing.

Claim 2 (currently amended):

B The method of claim 1 wherein the fiber drawing apparatus is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 10 to 1.

Claim 3 (currently amended):

The method of claim 2 wherein the fiber drawing apparatus is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 50 to 1.

Claim 4 (currently amended):

The method of claim 3 wherein the fiber drawing apparatus is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 100 to 1.

Claim 5 (currently amended):

The method of claim 4 wherein the fiber drawing apparatus is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 500 to 1.

Claim 6 (currently amended):

The method of claim 5 wherein the fiber drawing apparatus is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 1000 to 1.

Claim 7 (currently amended):

B The method of claim 1 wherein the fiber drawing apparatus comprises a conveyer-drawing structure having at least two conveyer-drawing ~~means~~ members for conveying and simultaneous drawing of the fiber,

wherein the conveyer-drawing ~~means~~ members are disposed about a central axis, which is parallel to a direction of conveying,

wherein the conveyer-drawing ~~means~~ members have receiving ends for receiving the fiber and delivery ends for delivering the fiber, and both the receiving ends and the delivery ends are spaced along the central axis,

wherein the delivery ends are spaced further from the central axis than the receiving ends,

wherein the fiber drawing apparatus comprises a means for feeding the fiber to the drawing apparatus and laying the fiber ~~in successive, controlled~~ continuously into coiled loops around on the receiving ends of the conveyer-drawing ~~means~~ members,

wherein the conveyer-drawing ~~means~~ members draw the fiber at the draw speed by expanding ~~the~~ a circumference of the fiber loops while conveying the fiber loops along the central axis from the receiving ends to the delivery ends, a layer comprising the coiled fiber loops being formed ~~about on~~ on the conveyer-drawing ~~means~~ members, and

wherein the fiber drawing apparatus comprises a take-off means for taking off continuously the leading fiber loops from the delivery ends of the conveyer-drawing ~~means~~ members and conveying the drawn fiber from the drawing apparatus at outlet speed V_{outlet} .

Claim 8 (currently amended):

The method of claim 7 wherein the fiber feed means further comprises a fiber winding flyer, which rotates about the central axis laying continuously the incoming fiber in ~~successive, controlled~~ into coiled loops around the receiving ends of the conveyer-drawing means members.

Claim 9 (currently amended):

The method of claim 7 wherein the fiber take-off means further comprises a fiber unwinding flyer, which rotates about the central axis unwinding continuously the ~~leading fiber~~ fiber leading loops from the delivery ends of the conveyer-drawing means members.

Claim 10 (currently amended):

The method of claim 7 wherein the conveyer-drawing means members are rotating spindles having a fiber displacing member facilitating the conveying and simultaneous drawing of the fiber, the displacing member being selected from the group consisting of a thread and a spiral groove.

Claim 11 (currently amended):

The method of claim 10 wherein the drawing apparatus is constructed and arranged such that the coiled fiber loops are rotated about the central axis by the spindles, contact points between the fiber and the spindles being not permanent.

Claim 12 (currently amended):

The method of claim 7 wherein the conveyer-drawing means members are ~~circulating conveyer-drawing members~~ selected from the group consisting of circulating endless chains, cables, belts, bands, cords, and escalator-type moving stairs.

Claim 13 (currently amended):

The method of claim 12 wherein the circulating conveyer-drawing members further comprise a plurality of fiber displacing members facilitating the conveying and simultaneous drawing of the fibers.

Claim 14 (currently amended):

The method of claim 13 wherein the displacing members comprise ~~free-to-rotate~~ rollers with circular ~~circumferential~~ grooves,

~~wherein the rollers are constructed and arranged such that their axes are adjusted nearly parallel to the central axis, and~~

wherein the fiber is placed in the grooves of the rollers such that the rollers support the coiled fiber loops.

B
Claim 15 (currently amended):

The method of claim 14 wherein the drawing apparatus is constructed and arranged such that the rollers are rotated about their axes, the coiled fiber loops being rotated ~~about the central axis by the rollers, and contact points between the fiber and the rollers being not~~ permanent

Claim 16 (original):

The method of claim 13 wherein the displacing members comprise guide members selected from the group consisting of semi-rings, plates, rods, and pins.

Claim 17 (cancelled).

Claim 18 (currently amended):

The method of claim ~~17~~ 7, wherein the drawing apparatus further comprising comprises a means for adjusting the fiber draw ratio, the means being selected from the group consisting of (a) a means for adjusting the distance between the receiving ends and the central axis and (b) a means for changing a position along the central axis where the fiber is received on the conveyer-drawing ~~means~~ members.

Claim 19 (currently amended):

The method of claim ~~17~~ 7, wherein the drawing apparatus further comprising comprises a means for adjusting a fiber draw ratio, the means being selected from the group consisting of (a) a means for adjusting the distance between the delivery ends and the central axis and (b) a means for changing a position along the central axis where the fiber is taken off from the conveyer-drawing ~~means~~ members.

Claim 20 (cancelled).

Claim 21 (currently amended):

The method of claim 20 7, wherein the drawing apparatus further comprising a means comprises a heat chamber for treatment heating of the fibers fiber while it being conveyed and drawn, wherein the ~~means is a heat chamber~~ is supplied with a heat medium selected from the group consisting of hot air, hot inert gas, and superheated steam

Claim 22 (currently amended):

The method of claim 20 7, wherein the drawing apparatus further comprising comprises a means for treatment of the fiber while it being conveyed and drawn, wherein the means is selected from the group consisting of a hot plate and a bath of an active media.

Claim 23 (currently amended):

A method for continuous drawing of fibers, comprising the steps of:

feeding the fiber at an inlet speed by a feed means to an apparatus for fiber drawing, which comprises a conveyer-drawing structure having at least two conveyer-drawing means members for conveying and simultaneous drawing of the fiber, wherein the conveyer-drawing means members are disposed about a central axis, which is parallel to a direction of conveying, wherein the conveyer-drawing means members have receiving ends for receiving the fiber and delivery ends for delivering the fiber, and both the receiving ends and the delivery ends are spaced along the central axis, wherein the delivery ends of the conveyer-drawing means members are spaced further from the central axis than the receiving ends, and wherein the feed

means lays the incoming fiber ~~in successive, controlled~~ continuously into coiled loops about on the receiving ends of the conveyer-drawing ~~means~~ members,

drawing the fiber at a draw speed by expanding ~~the~~ a circumference of the fiber loops while conveying the fiber loops along the central axis from the receiving ends to the delivery ends by the conveyer-drawing ~~means~~ members, a layer comprising the coiled fiber loops being formed ~~about on~~ on the conveyer-drawing ~~means~~ members,

taking off the leading fiber loops continuously from the delivery ends of the conveyer-drawing ~~means~~ members by a take-off means and conveying the drawn fiber ~~by the same means~~ from the fiber drawing apparatus at an outlet speed V_{outlet} ,

wherein the fiber drawing apparatus is constructed and arranged to provide a ratio of fiber outlet speed V_{outlet} to ~~the highest value of~~ a fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than 1 to 1, fiber speed $(V_{\text{fiber}})_{\text{max}}$ being the highest value of a linear speed of fiber points along the fiber axis in the process of drawing.

B
Claim 24 (currently amended):

The method of claim 23 wherein the fiber drawing apparatus is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 10 to 1.

Claim 25 (currently amended):

The method of claim 24 wherein the fiber drawing apparatus is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 50 to 1.

Claim 26 (currently amended):

The method of claim 25 wherein the fiber drawing apparatus is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 100 to 1.

Claim 27 (currently amended):

The method of claim 26 wherein the fiber drawing apparatus is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 500 to 1.

Claim 28 (currently amended):

The method of claim 27 wherein the fiber drawing apparatus is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 1000 to 1.

Claim 29 (currently amended):

The method of claim 23 wherein the fiber feed means further comprises a fiber winding flyer, which rotates about the central axis laying continuously the incoming fiber in ~~successive, controlled~~ into coiled loops around the receiving ends of the conveyer-drawing means members.

Claim 30 (currently amended):

The method of claim 23 wherein the fiber take-off means further comprises a fiber unwinding flyer, which rotates about the central axis unwinding continuously the leading fiber loops from the delivery ends of the conveyer-drawing means members.

Claim 31 (currently amended):

The method of claim 23 wherein the conveyer-drawing means members are rotating spindles having a fiber displacing member the facilitating conveying and simultaneous drawing of the fiber, the displacing member being selected from the group consisting of a thread and a spiral groove.

Claim 32 (currently amended):

The method of claim 31 wherein the drawing apparatus is constructed and arranged such that the coiled fiber loops are rotated about the central axis by the spindles, contact points between the fiber and the spindles being not permanent.

Claim 33 (currently amended):

The method of claim 23 wherein the conveyer-drawing ~~means~~ members are ~~circulating conveyer-drawing members~~ selected from the group consisting of circulating endless chains, cables, belts, bands, cords, and escalator-type moving stairs.

Claim 34 (currently amended):

The method of claim 33 wherein the circulating conveyer-drawing members further comprise a plurality of fiber displacing members facilitating the conveying and simultaneous drawing of the fibers.

Claim 35 (currently amended):

The method of claim 34 wherein the displacing members comprise ~~free-to-rotate~~ rollers with circular ~~circumferential~~ grooves,

B¹ ~~wherein the rollers are constructed and arranged such that their axes are adjusted nearly parallel to the central axis, and~~

wherein the fiber is placed in the grooves of the rollers such that the rollers support the coiled fiber loops.

Claim 36 (currently amended):

The method of claim 35 wherein the drawing apparatus is constructed and arranged such that the rollers are rotated about their axes, the coiled fiber loops being rotated about the central axis by the rollers, and contact points between the fiber and the rollers being not permanent.

Claim 37 (currently amended):

The method of claim 34 wherein the displacing members comprise guide members selected from the group consisting of semi-rings, plates, rods, and pins.

Claim 38 (cancelled).

Claim 39 (currently amended):

The method of claim 23 wherein the drawing apparatus further comprising comprises a means for adjusting the fiber draw ratio, the means being selected from the group consisting of (a) a means for adjusting the distance between the receiving ends and the central axis and (b) a means for changing a position along the central axis where the fiber is received on the conveyer-drawing means members.

Claim 40 (currently amended):

The method of claim 23 wherein the drawing apparatus further comprising comprises a means for adjusting a fiber draw ratio, the means being selected from the group consisting of (a) a means for adjusting the distance between the delivery ends and the central axis and (b) a means for changing a position along the central axis where the fiber is taken off from the conveyer-drawing means members.

Claim 41 (cancelled).

Claim 42 (currently amended):

The method of claim 23 wherein the drawing apparatus further comprising a means comprises a heat chamber for treatment heating of the fibers fiber while it being conveyed and drawn, wherein the means is a heat chamber is supplied with a heat medium selected from the group consisting of hot air, hot inert gas, and superheated steam

Claim 43 (currently amended):

The method of claim 23 wherein the drawing apparatus further comprising comprises a means for treatment of the fiber while it being conveyed and drawn, wherein the means is selected from the group consisting of a hot plate and a bath of an active media.

Claim 44 (currently amended):

An apparatus for continuous drawing of fibers, comprising:
a conveyer-drawing structure having at least two conveyer-drawing means members for conveying and simultaneous drawing of the fiber, wherein the conveyer-drawing

means members are disposed about a central axis, which is parallel to a direction of conveying, wherein the conveyer-drawing means members have receiving ends for receiving the fiber and delivery ends for delivering the fiber, and both the receiving ends and the delivery ends are spaced along the central axis, and wherein the delivery ends of the conveyer-drawing means members are spaced further from the central axis than the receiving ends,

a means for feeding the fiber at an inlet speed to the conveyer-drawing means members and laying the fiber ~~in successive, controlled~~ continuously into coiled loops about on the receiving ends of the conveyer-drawing means members,

a means for taking off the leading fiber loops continuously from the delivery ends of the conveyer-drawing means members and conveying the drawn fiber from the fiber drawing apparatus at an outlet speed V_{outlet} , and

a means for driving the conveyer-drawing means members, the feed means, and the take-off means,

wherein the conveyer-drawing means draw the fiber at a draw speed by expanding ~~the~~ a circumference of the fiber loops while conveying the fiber loops along the central axis from the receiving ends to the delivery ends, a layer comprising the coiled fiber loops being formed ~~about on~~ on the conveyer-drawing means members, and

wherein the fiber drawing apparatus is constructed and arranged to provide a ratio of fiber outlet speed V_{outlet} to ~~the highest value of~~ a fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than 1 to 1, fiber speed $(V_{\text{fiber}})_{\text{max}}$ being the highest value of a linear speed of fiber points along the fiber axis in the process of drawing.

Claim 45 (currently amended):

The drawing apparatus of claim 44, which ~~wherein the apparatus~~ is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 10 to 1.

Claim 46 (currently amended):

The drawing apparatus of claim 45, which ~~wherein the fiber drawing apparatus~~ is constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of~~ fiber speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 50 to 1.

Claim 47 (currently amended):

The drawing apparatus of claim 46, which ~~wherein the fiber drawing apparatus is~~ constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of fiber~~ speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 100 to 1.

Claim 48 (currently amended):

The drawing apparatus of claim 47, which ~~wherein the fiber drawing apparatus is~~ constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of fiber~~ speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 500 to 1.

Claim 49 (currently amended):

B The drawing apparatus of claim 48, which ~~wherein the fiber drawing apparatus is~~ constructed and arranged to provide the ratio of outlet speed V_{outlet} to ~~the highest value of fiber~~ speed in the drawing process $(V_{\text{fiber}})_{\text{max}}$ greater than about 1000 to 1.

Claim 50 (currently amended):

The apparatus of claim 44 wherein the fiber feed means further comprises a fiber winding flyer, which rotates about the central axis laying continuously the incoming fiber in ~~successive, controlled~~ into coiled loops around the receiving ends of the conveyer-drawing means members.

Claim 51 (currently amended):

The apparatus of claim 44 wherein the fiber take-off means further comprises a fiber unwinding flyer, which rotates about the central axis unwinding continuously the leading fiber loops from the delivery ends of the conveyer-drawing means members.

Claim 52 (currently amended):

The apparatus of claim 44 wherein the conveyer-drawing means members are rotating spindles having a fiber displacing member facilitating the conveying and simultaneous

drawing of the fiber in the form of coiled fiber loops, the displacing member being selected from the group consisting of a thread and a spiral groove.

Claim 53 (currently amended):

The apparatus of claim 52, which wherein the drawing apparatus is constructed and arranged such that the coiled fiber loops are rotated about the central axis by the spindles, contact points between the fiber and the spindles being not permanent.

Claim 54 (currently amended):

The apparatus of claim 44 wherein the conveyer-drawing ~~means~~ members are ~~circulating conveyer-drawing members~~ selected from the group consisting of circulating endless chains, cables, belts, bands, cords, and escalator-type moving stairs.

Claim 55 (currently amended):

The apparatus of claim 54 wherein the circulating conveyer-drawing members further comprise a plurality of fiber displacing members facilitating the conveying and simultaneous drawing of the fibers.

Claim 56 (currently amended):

The apparatus of claim 55 wherein the displacing members comprise ~~free-to-rotate~~ rollers with circular ~~cireumferential~~ grooves,

~~wherein the rollers are constructed and arranged such that their axes are adjusted nearly parallel to the central axis, and~~

wherein the fiber is placed in the grooves of the rollers such that the rollers support the coiled fiber loops.

Claim 57 (currently amended):

The apparatus of claim 56, which wherein the drawing apparatus is constructed and arranged such that the rollers are rotated about their axes, the coiled fiber loops being rotated about the central axis by the rollers, and contact points between the fiber and the rollers being not permanent.

Claim 58 (currently amended):

The apparatus of claim 55 wherein the displacing members comprise guide members selected from the group consisting of semi-rings, plates, rods, and pins.

Claim 59 (cancelled).

Claim 60 (currently amended):

The drawing apparatus of claim 59, further comprising wherein the a means for adjusting the fiber draw ratio is a member selected from the group consisting of (a) a means for adjusting the distance between the receiving ends and the central axis and (b) a means for changing a position along the central axis where the fiber is received on the conveyer-drawing means members.

B
Claim 61 (currently amended):

The drawing apparatus of claim 59, further comprising wherein the a means for adjusting the fiber draw ratio is a member selected from the group consisting of (a) a means for adjusting the distance between the delivery ends and the central axis and (b) a means for changing a position along the central axis where the fiber is taken off from the conveyer-drawing means members.

Claim 62 (cancelled).

Claim 63 (currently amended):

The apparatus of claim 62, further comprising a means heat chamber for treatment heating of the fibers fiber while it being conveyed and drawn, wherein the means is a heat chamber is supplied with a heat medium selected from the group consisting of hot air, hot inert gas, and superheated steam

Claim 64 (currently amended):

61 The apparatus of claim 62, further comprising a means for treatment of the fiber while it being conveyed and drawn, wherein the means is selected from the group consisting of a hot plate and a bath of an active media.

